

*Amendments to the Claims*

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A charge pump circuit to supply current to a controlled oscillating circuit, the charge pump circuit comprising:

a first switch comprising a first state, said first switch coupled to a gate of an output diode; and

a second switch comprising a second state opposite from said first state, the second switch coupled to a source of the output diode,

wherein the second switch provides a charge up current to the output diode when the second state comprises an ON state,

wherein the first switch is coupled to a capacitance configured to hold a bias when said the second switch state comprises the ON state, and

wherein the output diode is configured to provide the charge up current to an offset current.

2. (Original) The charge pump circuit of claim 1, wherein the first switch comprises a diode having a first semiconductor material.

3. (Original) The charge pump circuit of claim 1, wherein the second switch comprises a diode having a second semiconductor material.

4. (Canceled)

5. (Canceled)

6. (Original) The charge pump circuit of claim 1, wherein the first switch disconnects the gate of the output diode when said first state comprises an OFF state.

7. (Original) The charge pump circuit of claim 1, wherein the first switch comprises an n-channel metal oxide semiconductor.

8. (Original) The charge pump circuit of claim 1, wherein the second switch comprises a p-channel metal oxide semiconductor.

9 - 26. (Cancelled)